

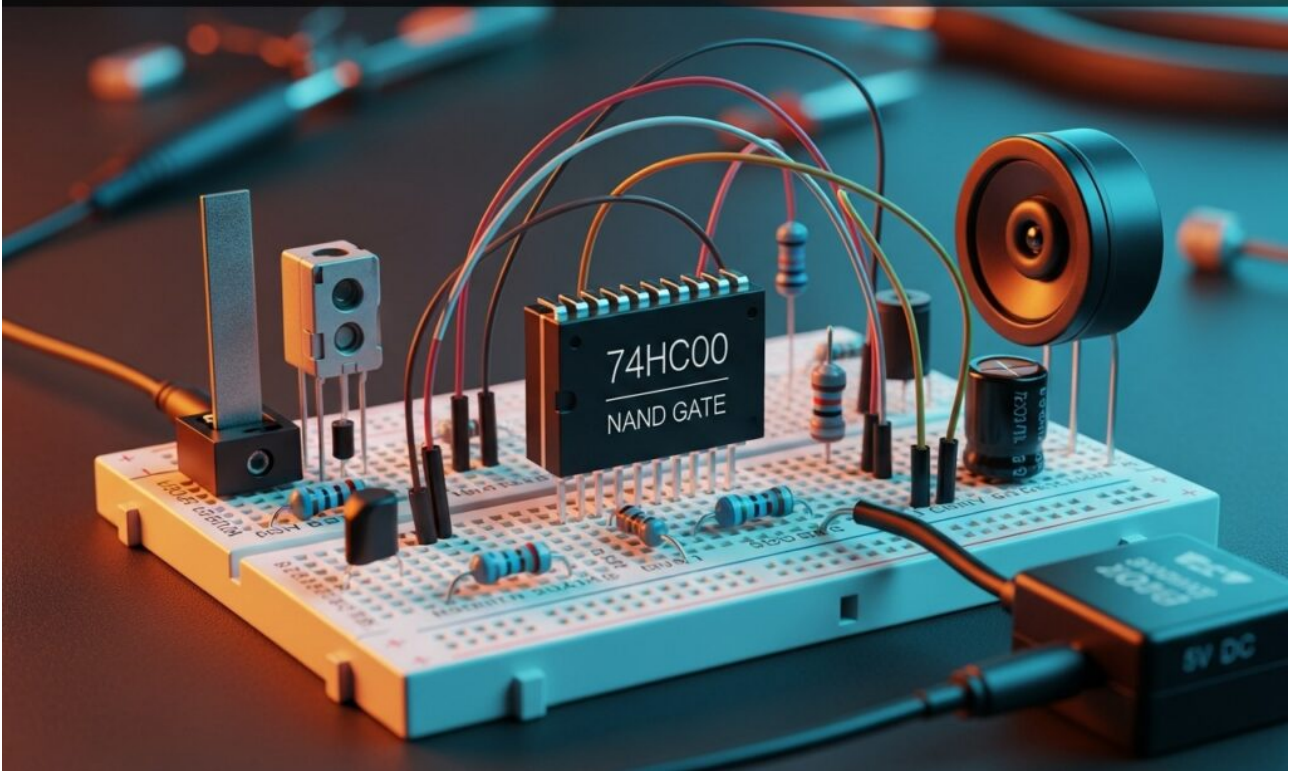
Practical case: Water tank level control



Learn Digital Electronics by building a pump safety stop using a NAND gate. Design a circuit that cuts power to 0V only when two sensors detect a full tank.

Practical case: Window sensor security alarm

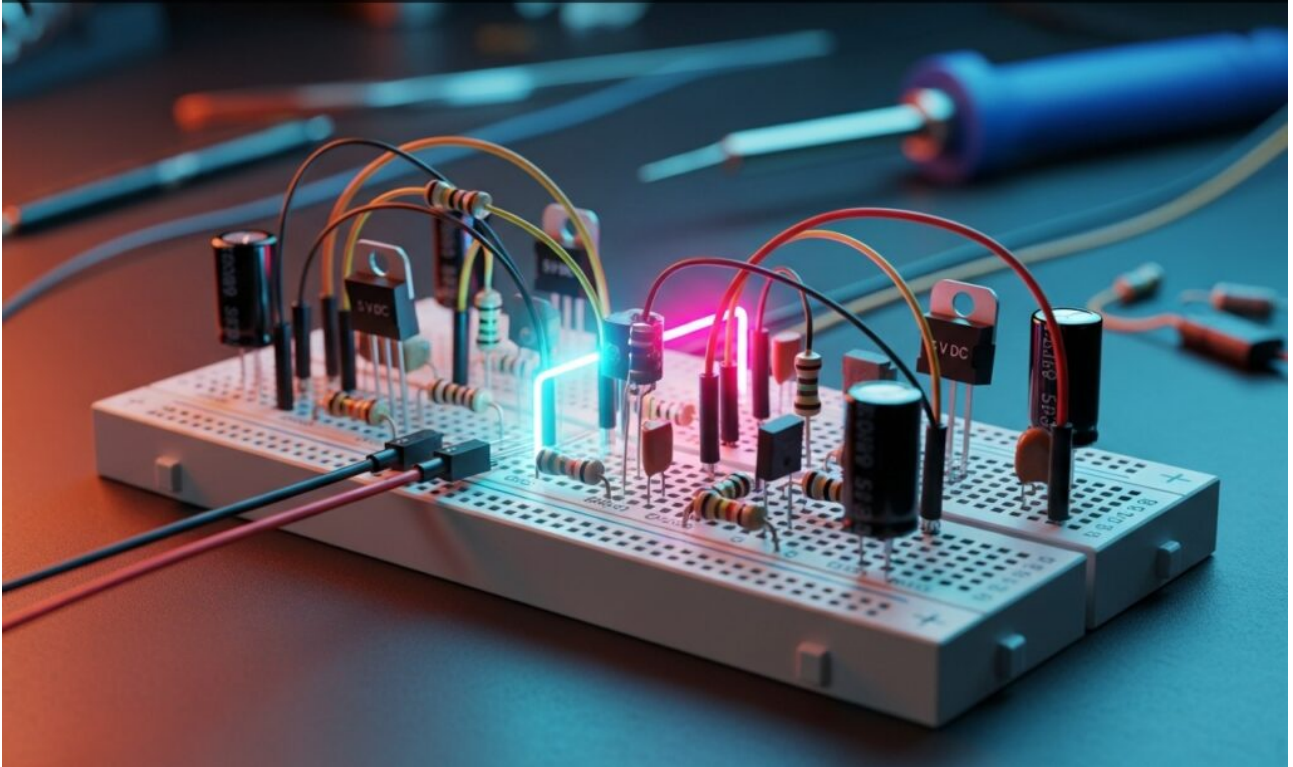
Window sensor security alarm



Master Digital Electronics by building a fail-safe alarm with a NAND gate. Detect open windows and trigger a 5V LED signal instantly when security is breached.

Practical case: High power circuit isolation

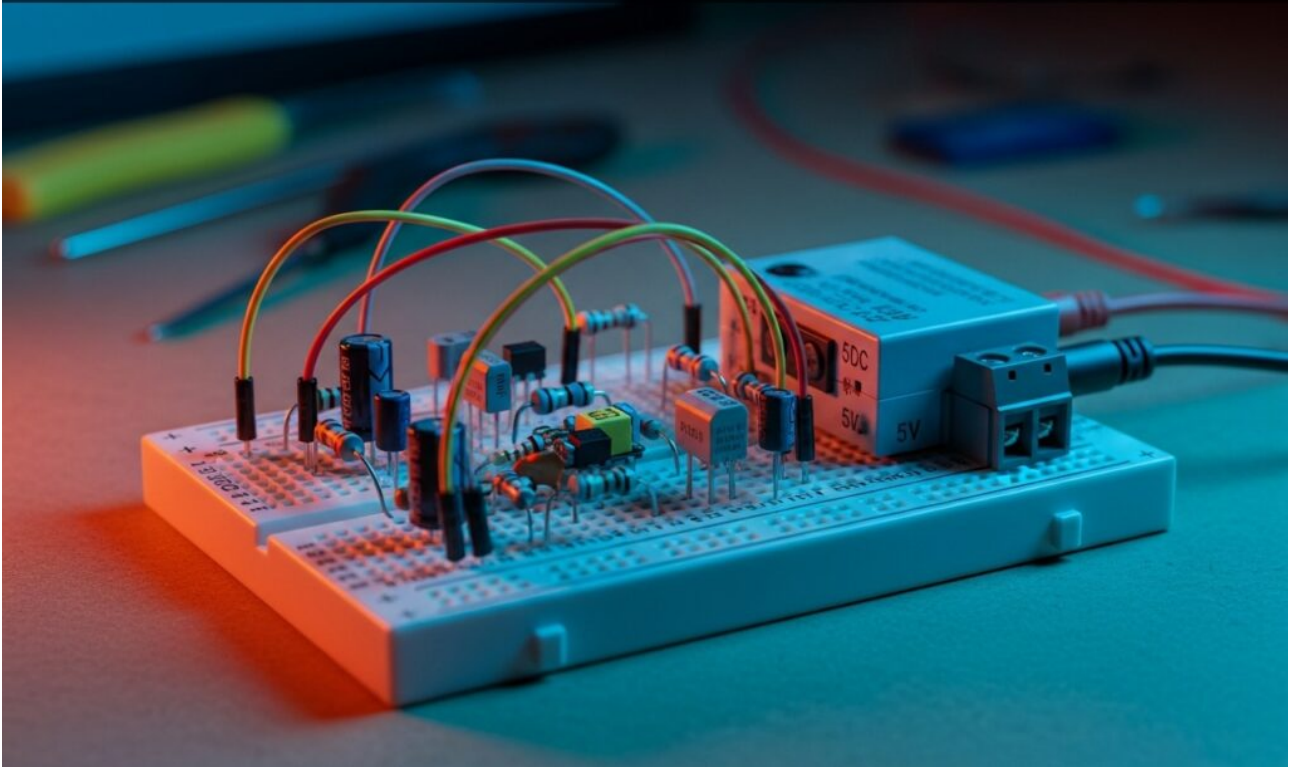
High power circuit isolation



Master Analog Electronics by building a Relay driver circuit. Learn to safely switch high-power loads with low-voltage signals and verify galvanic isolation.

Practical case: DC Motor Reversing

DC Motor Reversing



Master Analog Electronics by building a Relay H-bridge to control DC motor direction. Learn to switch polarity for clockwise spin, reverse motion, and braking.

Practical case: Latching Alarm System

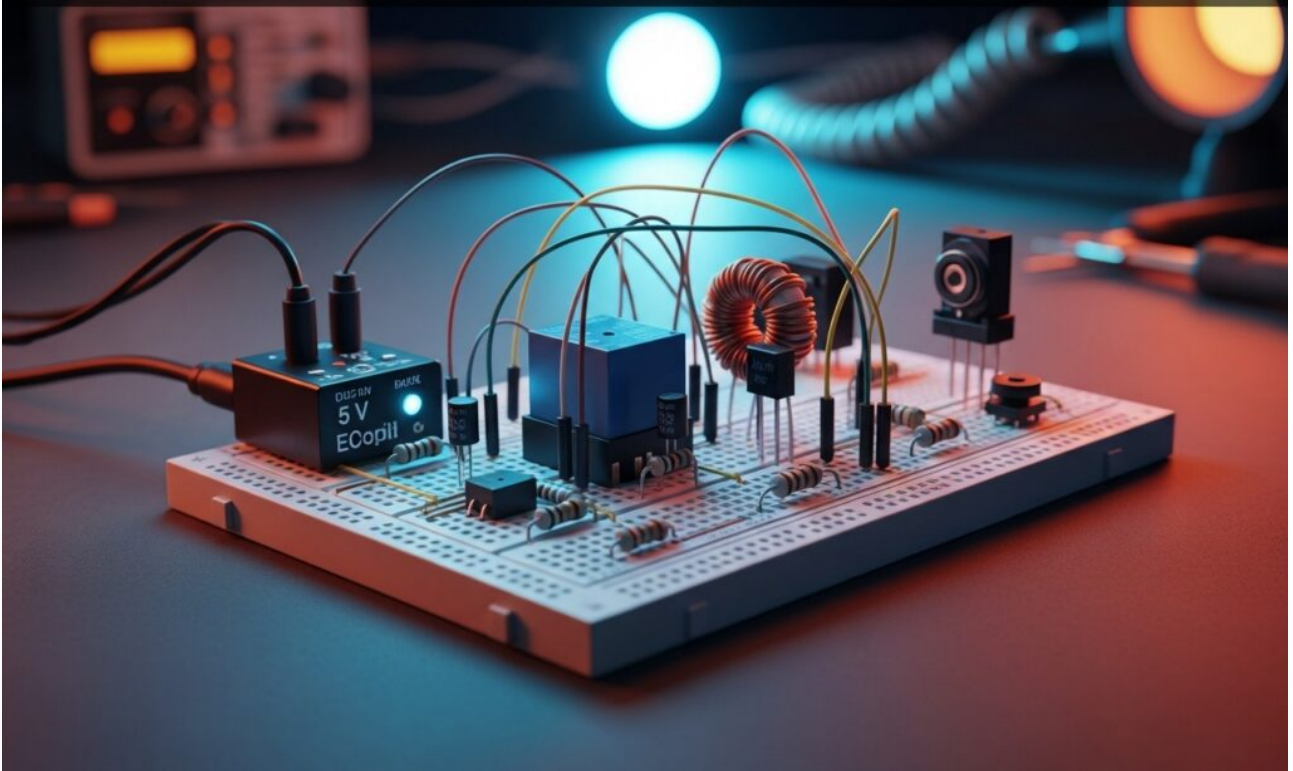
Latching Alarm System



Master Analog Electronics by building a self-latching Relay circuit. Create a reliable alarm memory system that holds active states until manually reset.

Practical case: DC motor control with relay and pushbutton

DC motor control with relay and pushbutton



Master Analog Electronics by building a Relay circuit to safely control high-power motors. Learn to isolate signals and achieve reliable switching protection.